

# MEMORANDUM

EAST CAMPUS DEVELOPMENT– SHARED PARKING ANALYSIS



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DATE: June 25, 2008  
TO: Hasan Askari  
COMPANY: Foulger Pratt Argo  
ADDRESS: 9600 Blackwell Road, Suite 200  
CITY/STATE: Rockville, MD 20850  
CC: Meredith Byer, Vika Inc.  
Matt Hopkins, StreetSense  
HARD COPY TO FOLLOW: No  
FROM: Jody L. Todd, CPP  
PROJECT NAME: East Campus  
PROJECT NUMBER: 13-2885.00  
SUBJECT: Summary of Shared Parking Analysis

Walker Parking Consultants  
6602 East 75th Street Suite 210  
Indianapolis, IN 46250

Voice: 317.842.6890  
Fax: 317.888.6500  
www.walkerparking.com

Walker Parking Consultants (Walker) was retained to complete a Shared Parking Analysis for the East Campus development, a mixed-use development to be located adjacent to the University of Maryland in College Park, Maryland. The objective of our engagement was to project parking demand for the development, using The Urban Land Institute's (ULI) methodology for shared parking reductions.

According to the requirements dictated in Section 27-574, the number of parking spaces required was calculated for a development in the M-X-T Zone/Metro Planned Community. This requirement is hereby defined as the Unshared Parking Requirement. The Unshared Parking Requirement was calculated using Section 27-568 for each use defined in the planned development. Some assignments of use were assumed pending tenant agreement, (i.e. 30% of the retail space was assumed to be restaurant space.)

Reduction factors were applied to the base parking demand for each use to account for differing peak demand periods (monthly, daily and hourly), interaction among land uses and use of mass transit or other method of arrival besides personal vehicle. Application of reduction factors was in accordance with Urban Land Institute (ULI) methodology, as stated in the 2005 publication *Shared Parking, Second Edition*.

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**Table 1: Calculation of Unshared Parking Requirement**

Land Use	Quantity	PHASE I		PHASE II	
		Quantity	Unshared Parking Requirement	Quantity	Unshared Parking Requirement
Retail (first 3,000 sf)	3,000 sf GLA		20	n/c sf GLA	20
Retail (remainder)	214,479 sf GLA		1,072	n/c sf GLA	1,072
Restaurant (Fine/Casual)	2,270 seats <sup>(1)</sup>		757	n/c seats	757
Restaurant (Fast Food)	1,702 seats <sup>(2)</sup>		568	n/c seats	568
Birchmere	1,000 seats		333	n/c seats	333
Cineplex	1,200 seats		300	n/c seats	300
Hotel	200 rooms		100	n/c rooms	100
Office	104,416 sf GLA		264	n/c sf GLA	264
Residential - 1 br/Studio	151 units		201	355 units	472
Residential - 2 br	276 units		458	417 units	692
Residential - 4 br	388 units		900	736 units	1,708
Residential Guests	815 units <sup>(3)</sup>		122	1508 units	226
<b>Total</b>			<b>4,973</b>		<b>6,286</b>

**Notes:**

(1) Fine/Casual Restaurant space is assumed to be 25% of total retail space (61,280 sf GLA.) Assumed 1 seat per 27 square feet of total restaurant space.

(2) Fast Food spaces is assumed to be 5% of total retail space (30,640 sf GLA.) Assumed 1 seat per 18 square feet of total restaurant space.

(3) Guest parking for residential guests is not required by Section 27-568. However, Walker Parking Consultants recommend 0.15 spaces per residential unit.

n/c = no change

Walker assigned reduction factors to the Unshared Parking requirement numbers for each month of the year from 6:00 a.m. to midnight on a weekday and weekend basis. The result indicated that the overall peak demand would occur on a Saturday in December. The peak time for Phase I was calculated to be 1:00 p.m. The addition of residential units in Phase II moved the peak period to 7:00 p.m., with a secondary peak occurring at 1:00 p.m.

The tables on the following pages illustrate the reduction factors applied to the peak period for both Phase I and II.

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Table 2: Shared Parking Requirements- PHASE I

Land Use	Unshared Demand	Month Adj December	Pk Hr Adj 1:00 PM	Non Captive Daytime	Drive Ratio Daytime	Shared Demand December 1:00 PM
Retail (first 3,000 sf)	16	100%	95%	90%	80%	11
Employee	4	100%	100%	95%	65%	2
Retail (remainder)	858	100%	95%	90%	80%	587
Employee	214	100%	100%	95%	65%	132
Fine/Casual Dining	681	100%	55%	85%	80%	255
Employee	76	100%	75%	95%	65%	35
Fast Food	511	100%	100%	50%	80%	204
Employee	57	100%	100%	95%	65%	35
Birchmere	300	100%	0%	50%	80%	0
Employee	33	100%	10%	95%	65%	2
Cineplex	276	67%	45%	90%	80%	60
Employee	24	80%	60%	95%	65%	7
Hotel	85	67%	55%	100%	77%	24
Employee	15	100%	100%	95%	65%	9
Residential Guest	122	100%	20%	100%	75%	18
Office	26	100%	80%	100%	100%	21
Employee	238	100%	80%	95%	90%	163
Residential - 1 br/Studio	201	100%	100%	100%	100%	201
Residential - 2 br	458	100%	100%	100%	100%	458
Residential - 4 br	900	100%	100%	100%	100%	900
<b>Subtotal Customer/Guest Spaces</b>	<b>2,753</b>					<b>1,180</b>
<b>Subtotal Employee Spaces</b>	<b>661</b>					<b>385</b>
<b>Subtotal Resident Reserved Spaces</b>	<b>1,559</b>					<b>1,559</b>
<b>Total Parking Spaces</b>	<b>4,973</b>					<b>3,124</b>
				plus Optimum Utilization Factor		<b>376</b>
						<b>3,500</b>

An optimum utilization factor of 12% is necessary in Phase I to allow for some daily inefficiency in the supply such as misparked vehicles, snow piles, and the perception of a full floor or lot. Once the occupancy of a parking facility nears 85% the perception that the floor or lot is full may cause a parker to miss spaces. Typically, Walker recommends increasing the supply by 5-15% or 12% in this case, to allow for these inefficiencies. The factor recommended may vary based on the mix and quantity of land uses. For example the factor is higher for Phase I than for Phase I and II combined due to the increase in residential units which typically have reserved parking and do not require a cushion.

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Table 3: Shared Parking Requirements- PHASES I & II

Land Use	Unshared Demand	Month Adj December	Pk Hr Adj 7:00 PM	Non Captive Evening	Drive Ratio Evening	Shared Demand December 7:00 PM
Retail (first 3,000 sf)	16	100%	75%	65%	80%	6
Employee	4	100%	80%	80%	65%	2
Retail (remainder)	858	100%	75%	65%	80%	335
Employee	214	100%	80%	80%	65%	89
Fine/Casual Dining	681	100%	95%	90%	80%	466
Employee	76	100%	100%	80%	65%	40
Fast Food	511	100%	80%	50%	80%	163
Employee	57	100%	90%	80%	65%	27
Birchmere	300	100%	50%	50%	80%	60
Employee	33	100%	100%	80%	65%	17
Cineplex	276	67%	80%	90%	80%	107
Employee	24	80%	100%	80%	65%	10
Hotel	85	67%	75%	100%	77%	33
Employee	15	100%	55%	80%	65%	4
Residential Guest	226	100%	100%	100%	75%	170
Office	26	100%	0%	100%	100%	0
Employee	238	100%	0%	85%	90%	0
Residential - 1 br/Studio	472	100%	100%	100%	100%	472
Residential - 2 br	692	100%	100%	100%	100%	692
Residential - 4 br	1,708	100%	100%	100%	100%	1,708
<b>Subtotal Customer/Guest Spaces</b>	<b>2,753</b>					<b>1,340</b>
<b>Subtotal Employee Spaces</b>	<b>661</b>					<b>189</b>
<b>Subtotal Resident Reserved Spaces</b>	<b>2,872</b>					<b>2,872</b>
<b>Total Parking Spaces</b>	<b>6,286</b>					<b>4,401</b>
				plus Optimum Utilization Factor		<b>99</b>
						<b>4,500</b>

The tables on following pages show the hourly demand fluctuations for both Phases I and Phases I and II combined for the design day (a Saturday in December). These hourly accumulations include all reduction factors assumed in tables 2 and 3 (i.e. monthly and daily factors and drive ratio and non-captive adjustments.)

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Table 4: Parking Requirements by Hour for a Saturday in December – PHASE I

	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	12:00 AM
Retail	-	1	1	4	7	8	10	11	12	12	11	10	7	7	6	4	3	1	-
Employee	-	-	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	-	-
Retail (remainder)	6	31	62	216	371	432	525	587	618	618	587	556	384	360	312	240	168	72	-
Employee	13	20	53	99	112	126	132	132	132	132	132	126	112	106	99	86	59	20	-
Fine/Casual Dining	-	-	-	-	-	69	232	255	208	208	208	278	466	492	518	466	466	466	259
Employee	-	9	14	28	35	35	35	35	35	35	35	47	47	47	47	47	47	40	23
Fast Food	10	20	41	61	112	173	204	204	183	122	112	122	173	163	102	61	41	20	10
Employee	5	7	11	14	26	35	35	35	33	25	21	25	32	32	21	14	11	7	7
Birchmere	-	-	-	-	-	-	-	-	-	-	-	-	30	60	90	120	120	120	120
Employee	-	-	-	1	1	1	1	2	2	2	4	9	14	20	20	20	20	20	20
Cineplex	-	-	-	-	-	-	27	60	73	73	73	80	89	118	148	148	148	118	74
Employee	-	-	-	-	-	-	6	7	7	9	9	12	12	12	12	12	12	8	6
Hotel	42	39	35	31	26	26	24	24	26	26	29	31	33	33	35	37	42	44	44
Employee	-	3	8	8	9	9	9	9	9	9	8	7	6	5	5	5	4	4	3
Office	-	5	16	21	23	26	23	21	16	10	5	3	1	-	-	-	-	-	-
Employee	-	41	122	163	183	203	183	163	122	81	41	20	10	-	-	-	-	-	-
Residential - 1 br/Studio	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Residential - 2 br	458	458	458	458	458	321	458	458	458	458	458	458	458	458	458	458	458	458	458
Residential - 4 br	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
Customer/Guest	58	114	173	351	557	752	1,063	1,180	1,154	1,087	1,043	1,117	1,238	1,325	1,303	1,168	1,080	914	553
Employee/Shared Resident	18	80	209	315	368	411	403	385	342	295	252	248	235	224	206	186	154	99	59
Reserved Resident	1,559	1,559	1,559	1,559	1,559	1,422	1,559	1,559	1,559	1,559	1,559	1,559	1,559	1,559	1,559	1,559	1,559	1,559	1,559
TOTAL DEMAND	1,635	1,753	1,941	2,225	2,484	2,585	3,025	3,124	3,055	2,941	2,854	2,924	3,032	3,108	3,068	2,913	2,793	2,572	2,171
plus optimum utilization factor	1,832	1,964	2,175	2,493	2,783	2,896	3,389	3,500	3,423	3,295	3,198	3,276	3,397	3,482	3,438	3,264	3,129	2,882	2,432

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Table 5: Parking Requirements by Hour for a Saturday in December – PHASE I & PHASE II

	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	12:00 AM
Retail	-	1	1	4	6	7	9	10	10	10	10	9	7	6	5	4	3	1	-
Employee	-	-	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	-	-
Retail (remainder)	5	27	55	192	329	384	467	522	549	549	522	494	357	335	290	223	156	67	-
Employee	11	17	45	83	95	106	111	111	111	111	111	106	95	89	83	72	50	17	-
Fine/Casual Dining	-	-	-	-	-	61	204	225	184	184	184	245	441	466	490	441	441	441	245
Employee	-	8	12	24	30	30	30	30	30	30	40	40	40	40	40	40	40	34	20
Fast Food	10	20	41	61	112	173	204	204	183	122	112	122	173	163	102	61	41	20	10
Employee	4	6	9	12	22	30	30	30	28	21	18	21	27	27	18	12	9	6	6
Cineplex/ Birchmere	-	-	-	-	-	-	22	50	61	61	61	67	80	107	133	133	133	107	67
Employee	-	-	-	-	-	5	6	6	7	7	10	10	10	10	10	10	10	7	5
Hotel	42	39	35	31	26	26	24	24	26	26	29	31	33	33	35	37	42	44	44
Employee	-	2	7	7	8	8	8	8	8	8	7	6	5	4	4	4	4	4	2
Office	-	5	16	21	23	26	23	21	16	10	5	3	1	-	-	-	-	-	-
Employee	-	36	109	146	164	182	164	146	109	73	36	18	9	-	-	-	-	-	-
Residential - 1 br/Studio	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472
Residential - 2 br	692	692	692	692	692	484	692	692	692	692	692	692	692	692	692	692	692	692	692
Residential - 4 br	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708
Customer/Guest	57	126	182	343	530	711	987	1,090	1,063	996	957	1,039	1,224	1,340	1,315	1,189	1,106	936	571
Employee	15	69	183	275	322	359	351	335	296	254	214	211	200	189	174	156	131	85	50
Reserved Resident	2,872	2,872	2,872	2,872	2,872	2,664	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872
TOTAL DEMAND	2,944	3,067	3,237	3,490	3,724	3,734	4,210	4,297	4,231	4,122	4,043	4,122	4,296	4,401	4,361	4,217	4,109	3,893	3,493
plus optimum utilization factor	3,010	3,136	3,310	3,569	3,808	3,818	4,305	4,394	4,326	4,215	4,134	4,215	4,393	4,500	4,459	4,312	4,201	3,981	3,572